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08/966,985	11/10/1997	JEFFREY JACOBSEN	KPN96-03A8	6374

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER	
PIZIALI, JEFFREY J	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	08/966,985	JACOBSEN ET AL.	
	Examiner	Art Unit	
	Jeff Piziali	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20,22-27 and 37-39* is/are pending in the application.

4a) Of the above claim(s) *9,11,17,19 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,12-16,18,22-27 and 37-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 9 November 2007. These drawings are acceptable.

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Wilska et al. (UK - 2,289,555)*** in view of ***Takahara et al. (US 5,436,635)*** and ***Helms (US 5,760,760 A)***.

Regarding claim 1, Wilska discloses a portable communications device having a reflective display comprising a device housing [e.g., Fig. 1, 1] having a wireless receiver [e.g., Fig. 1, 18]; a display [e.g., Fig. 1, 9] having an array of pixel electrodes; a display control circuit [e.g., Fig. 3, 6] positioned in the housing and connected to the wireless receiver and the matrix display such that image data that is received by the receiver is input to the display control circuit, which generates a display signal to drive the matrix display to render the image (see the entire document, including Page 3, Paragraph 8 - Page 6, Paragraph 1). Wilska does not expressly disclose an active matrix display, a light emitting diode, an optical coupler, and a power management circuit.

However, Takahara does disclose an active matrix display [e.g., Fig. 21, 214] having an active matrix circuit [e.g., Fig. 11; T_{mn}] and an array of pixel electrodes [e.g., Fig. 11; P_{mn}], the active matrix circuit capable of storing charge between vertical synchronization signals (see the entire document, including Column 20, Lines 26-51); a light emitting diode light source [e.g., Fig. 21, 211] optically coupled to illuminate the matrix display for illuminating the image; and an optical coupler [e.g., Fig. 21, 213] that couples light from the light source onto the matrix

display and the reflected light toward a viewer (see the entire document, including Column 28, Lines 30-49 and Column 33, Lines 22-28), and a power management circuit [e.g., Fig. 22, 223] that lowers the power consumption of the control circuit [e.g., Fig. 22, 225] between vertical synchronization signals (see the entire document, including Column 31, Lines 16-63), the power management circuit [e.g., Fig. 22, 223] arranged for receiving control signals [e.g., pulse width variable signals from the 'variable resistor' (which is not illustrated), and the circuit within the light emitting tube power supply for modulating the anode voltage with a pulse signal (which is also not explicitly illustrated)] for lowering the power consumption, the control signals resulting from signals from a display control circuit [e.g., Fig. 22, the combined circuitry of the reproduction circuit (225), variable resistor (which is not illustrated), and the circuit within the light emitting tube power supply for modulating the anode voltage with a pulse signal (which is also not explicitly illustrated)] that are initiated by the display control circuit, the power management circuit and the display control circuit being connected together and arranged in a configuration that lowers the power consumption is a user adjustable manner (see the entire document, including Column 31, Lines 16-63).

Takahara does not expressly disclose the power management circuit and the display control circuit being connected together and arranged in a configuration that lowers the power consumption is a self-regulating manner, as instantly claimed.

However, Helms does disclose a power management circuit [e.g., Fig. 2; 14 & 204] that controls the power consumption of a display control circuit [e.g., Fig. 2; 10], the power management circuit [e.g., Fig. 2; 14 & 204] lowering the power consumption of the display circuit [e.g., Fig. 2; 10] between vertical synchronization signals, the power management circuit

[e.g., Fig. 2; 14 & 204] arranged for receiving control signals [e.g., Fig. 2; 214] for lowering the power consumption, the control signals [e.g., Fig. 2; 214] resulting from signals from the display control circuit [e.g., Fig. 2; 10] that are initiated by the display control circuit [e.g., Fig. 2; 10], the power management circuit [e.g., Fig. 2; 14 & 204] and the display control circuit [e.g., Fig. 2; 10] being connected together and arranged in a configuration that lowers the power consumption in a self regulating manner (see the entire document, including Column 3, Line 25 - Column 4, Line 5).

Wilska, Takahara, and Helms are analogous art because they are from the field of portable communications devices. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to use Helms' self regulating power management circuit in conjunction with Takahara's active matrix display, LED light source, optical coupler assembly, and power management circuit, and with Wilska's communication device, so as to provide a high quality and energy efficient liquid crystal image that's easy to see (and read) in both dark and bright light.

Regarding claim 2, Takahara discloses reflective pixel electrodes (see the entire document, including Column 7, Lines 50-56) and further comprising a transistor circuit formed with single crystal silicon [e.g., Fig. 18A, 167c] associated with each pixel electrode (see the entire document, including Column 24, Line 35 - Column 25, Line 59).

Regarding claim 3, Takahara discloses a color sequential display circuit (see the entire document, including Fig. 15; Column 23, Lines 12-37).

Regarding claim 4, Takahara discloses a switching circuit [e.g., Fig. 1, 11-14] connected to a counterelectrode panel of the matrix display for switching the applied voltage to the counterelectrode panel (see the entire document, including Column 13, Lines 20-65).

Regarding claim 37, Takahara discloses the power consumption of the control circuit being lowered without comparing sequential image data (see the entire document, including Column 31, Lines 16-63).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over ***Wilska et al. (UK - 2,289,555)*** in view of ***Takahara et al. (US 5,436,635)*** and ***Helms (US 5,760,760 A)*** as applied to claim 3 above, and further in view of ***Shigeta et al. (US 5,394,204)***.

Regarding claim 5, neither Wilska nor Takahara nor Helms expressly disclose a dichroic prism. However, Shigeta discloses a dichroic prism [e.g., Fig. 9, 63] (see the entire document, including Column 1, Lines 14-39). Wilska, Takahara, Helms, and Shigeta are analogous art because they are from the field of matrix display systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Shigeta's prism system with Wilska's and Takahara's combined communications device to provide a large-sized color image.

8. Claims 6-8, 10, 12-16, 18, 22-27, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Wilska et al. (UK - 2,289,555)*** in view of ***Takahara et al. (US 5,436,635)***, ***Helms (US 5,760,760 A), Shigeta et al. (US 5,394,204)***, and ***Yagyu (US 5,856,814)***.

Regarding claim 6, this claim is rejected by the reasoning applied in the above rejection of claims 1, 3, and 5; furthermore, Wilska discloses a battery [e.g., Fig. 3, 3]. None of Wilska, Takahara, Helms, and Shigeta expressly disclose the light source being three light emitting diodes of three distinct colors. However, Yagyu discloses a light source [e.g., Fig. 10, 104] that is three light emitting diodes [e.g., Fig. 10, EDR, EDG and EDB] of three distinct colors (see the entire document, including Column 8, Lines 19-47). Wilska, Takahara, Shigeta, and Yagyu are all analogous art because they are from the field of liquid crystal displays. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Yagyu's three light emitting diodes system as Wilska's, Takahara's, and Shigeta's combined light source, so as to provide a color display for easy viewing.

Regarding claims 7 and 15, Takahara discloses a diffuser (see the entire document, including Column 4, Lines 14-46).

Regarding claim 8, Shigeta discloses at least one dichroic mirror [e.g., Fig. 10, 56-59] for directing the light from one light emitting diode and allowing light from another light emitting diode to pass through (see the entire document, including Column 1, Lines 14-39 and Column 7, Lines 3-15).

Regarding claims 10 and 18, Wilska discloses a telephone [e.g., Fig. 3, 17] (see the entire document, including Page 5, Paragraph 3).

Regarding claim 12, this claim is rejected by the reasoning applied in the above rejection of claims 1, 2, 5, and 6.

Regarding claims 13 and 23, this claim is rejected by the reasoning applied in the above rejection of claim 3.

Regarding claim 14, while Wilska does not expressly disclose an array of at least 640 x 480 pixel electrodes, Wilska does disclose providing a resolution greater than 640 x 200 pixels[2] (see the entire document, including Page 4, Paragraph 2). Therefore, for the purpose of providing a precise display image, it would have been additionally obvious to an artisan at the time of invention to utilize 640 x 480 pixel electrodes.

Regarding claims 16 and 22, Shigeta discloses a pair of dichroic mirrors [e.g., Fig. 10, 56-59], each mirror for directing the light from one light emitting diode and allowing light from at least another light emitting diode to pass through (see the entire document, including Column 1, Lines 14-39 and Column 7, Lines 3-15).

Regarding claim 24, this claim is rejected by the reasoning applied in the above rejection of claim 4.

Regarding claim 25, this claim is rejected by the reasoning applied in the above rejection of claim 6.

Regarding claim 26, this claim is rejected by the reasoning applied in the above rejection of claim 8.

Regarding claim 27, Yagyu discloses the three light emitting diodes are flashed concurrently to emit white light (see the entire document, including Column 8, Lines 19-47).

Regarding claim 38, this claim is rejected by the reasoning applied in the above rejection of claim 37.

Regarding claim 39, this claim is rejected by the reasoning applied in the above rejection of claim 37.

Response to Arguments

9. Applicant's arguments filed 10 March 2008 have been fully considered but they are not persuasive.

The Applicant contends, "[*Helms'*] *Brightness control circuitry 204 and processor 204a do not receive control signals for lowering the power consumption as specified in the claimed*

invention, and often increases power consumption. Accordingly, Claims 1-8, 10, 12-16, 18, 12-27, and 37-39, as amended, are not obvious in view of Wilska, Takahara and Helms, together, o r further in view of Shigeta and Yagyu, since none of the references, alone or in combination, teach or suggest a 'power management circuit arranged for receiving control signals for lowering the power consumption, the control signals resulting from signals from the display control circuit that are initiated by the display control circuit, the power management circuit and the display control circuit being connected together and arranged in a configuration that lowers the power consumption in a self regulating manner', as recited in base Claims 1, 6 and 12. Therefore. Claims 1-8, 10, 12-16, 18, 22-27, and 37-39, as well as Claims 9, 11, 17, 19, and 20, are now in condition for allowance" (see the entire document, including Page 4, Paragraph 2 of the Request for Reconsideration filed 10 March 2008). However, the examiner respectfully disagrees.

Helms (US 5,760,760 A) discloses a power management circuit [e.g., Fig. 2; 14 & 204] that controls the power consumption of a display control circuit [e.g., Fig. 2; 10],

the power management circuit [e.g., Fig. 2; 14 & 204] lowering the power consumption of the display circuit [e.g., Fig. 2; 10] between vertical synchronization signals (wherein, for example, whenever ambient light conditions automatically lower the LCD panel's 12 brightness, power consumption is lowered as a result),

the power management circuit [e.g., Fig. 2; 14 & 204] arranged for receiving control signals [e.g., Fig. 2; "automatic brightness level ABL" signals] for lowering the power consumption (see the entire document, including Column 4, Lines 52-67; wherein Helms

discloses "*As a power saving measure, an additional step could be added in which a comparison is made between the level of the AL and USBL signals and, responsive to the comparison, the brightness level of the LCD 12 is dictated by the lower (i.e., dimmer) of the two signals*"),

the control signals [e.g., Fig. 2; "automatic brightness level ABL" signals] resulting from signals [e.g., Fig. 2; "ambient light AL" and "user-selected brightness level USBL" signals] from the display control circuit [e.g., Fig. 2; 10] that are initiated by the display control circuit [e.g., Fig. 2; 10],

the power management circuit [e.g., Fig. 2; 14 & 204] and the display control circuit [e.g., Fig. 2; 10] being connected together and arranged in a configuration that lowers the power consumption in a self regulating manner (see the entire document, including Column 3, Line 25 - Column 4, Line 5), as instantly claimed.

Helms explains, "*A plurality of automatic brightness level ('ABL') signal values, each of which corresponds to a particular one of a plurality of various possible AL signal values, are stored in the memory 204b. It will be understood that the ABL signal value associated with each of the AL signal values will be determined empirically and will depend, at least partially, on the relevant parameters of the particular LCD 12, as well as a subjective determination of the optimum LCD brightness level for operation in the given ambient lighting condition. In one embodiment, the ABL signal values are stored in the memory 204b as a lookup table indexed by the input AL signal value, such that input of an AL signal thereto via the microprocessor 204a results in the output therefrom of the corresponding ABL signal, although various other manners of implementation are anticipated. In any event, once the microprocessor 204a accesses from the*

memory 204b the ABL signal value corresponding to the AL signal input thereto, it outputs to the Backlight driver circuitry 213 an appropriate BC signal for adjusting the brightness level of the LCD 12 in accordance with the levels indicated by the USBL and AL signals, as will be described in detail with reference to FIG. 3" (see the entire document, including Column 3, Line 51 - Column 4, Line 5).

As such, contrary to the Applicant's position, Helms' brightness control circuitry [e.g., Fig. 2; 204] and processor [e.g., Fig. 2; 204a] do indeed receive control signals [e.g., Fig. 2; analog and digital "ambient light AL" and "user-selected brightness level USBL" signals, along lines 212 and 214 respectively-- as well as "automatic brightness level ABL" signals] for lowering the power consumption as specified in the claimed invention. Helms' invention will decrease power consumption by automatically lowering the LCD panel's [e.g., Fig. 2; 12] brightness in proportion to sensed ambient light conditions. Also, the brightness level of the LCD 12 is dictated by the lower (i.e., dimmer) of the two signals [e.g., Fig. 2; analog and digital "ambient light AL" and "user-selected brightness level USBL" signals], further decreasing power consumption.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
29 May 2008